

AMENDMENTS TO THE CLAIMS

Please cancel Claims 112, 113, and 116-120, without prejudice. Please amend Claims 109-111, as follows.

109. (Currently Amended) An isolated PAPS synthetase protein comprising a polypeptide having an amino acid sequence of {SEQ: ID: NO.:7}, {SEQ: ID: NO.:8}, or an antibody binding fragment thereof either of these at least 6 amino acids long.

110. (Currently Amended) A PAPSS2 fusion protein, comprising:
a first PAPSS2 polypeptide segment comprising an amino acid sequence of {SEQ: ID: NO.:7} or a gene-specific antibody binding fragment thereof at least 6 amino acids long; and
a second predetermined polypeptide segment.

111. (Currently Amended) The fusion protein of Claim 110, wherein the PAPSS2 polypeptide segment is encoded by a nucleic acid segment having a nucleotide sequence of {SEQ: ID: NO.:9} or a gene-specific fragment thereof, or by a degenerate sequence of either of these.

Claims 112-113 (Canceled)

114. (Original) The PAPSS2 fusion protein of Claim 110, wherein the second polypeptide segment is an human immunodeficiency virus TAT protein.

115. (Original) The PAPSS2 fusion protein of Claim 111, wherein the second polypeptide segment is an human immunodeficiency virus TAT protein.

Claims 116-120 (Canceled)